USACE, PORTLAND DISTRICT
NPDES PERMITS
COLUMBIA RIVER

PORTLAND DISTRICT WASHINGTON STATE NPDES DISCHARGE PROJECT CHARACTERIZATION TABLES UPDATED 8/29/18

The purpose of the project characterization tables is to provide EPA Permit Writers relevant USACE Project specific information related to all discharge points that may be regulated under §402 of the Clean Water Act. Much of the data provided in the tables was used to develop the permit applications submitted to EPA in 2014. Portland District Projects include: Bonneville, The Dalles, and John Day. Only Washington State portions of those Projects are included in these tables. Updates from the provided permit information are in red.

SAMPLING AND LAB DATA

Sampling information, testing, and lab analysis submitted in 2014 is located in the hidden columns E – AB.

COLUMN DESCRIPTIONS

Outfall: The number designation that will identify the outfall throughout the permit process.

Outfall Name (Discharge Point): This is the commonly referred term used to describe the discharge point or system that may result in a discharge.

System Description: Common language description of the system that may produce the discharge.

Project Location: The location on the Project of the system.

Discharge Location: The location on the Project where the discharge occurs. All Portland Projects and McNary Project eventually discharge into the Columbia River. Ice Harbor, Lower Monumental, Little Goose, and Lower Granite Projects all eventually discharge to the Snake River. The "Forebay" refers to the waterbody just above the dam. "Tailrace" refers to the waterbody immediately downstream of the dam.

Suspected Pollutants: Pollutants that may be discharged by the system.

Average Flow : The rate of discharge when the system is in operation (usually in gallons per minute). This is often the nameplate capacity of the pump because actual measurement has not occurred.

Treatment Description: Description of treatment system (if any) for section VI of the application.

Treatment Code: If discharge is treated, use code from form 2C describing treatment type.

Frequency: This refers to how often the discharge occurs. For systems that either run continually or start and run intermittently but are not shut down the term "continuous" is used. For systems that run periodically the time frame that they operate in is described.

Flow Rate (long term average): Calculation of discharge for number of operational days per year based on average flow (million gallons per day).

Flow Rate (maximum daily average): Calculation of daily flow (million gallons per day).

Duration: Number of days per year that the outfall discharges.

Improvements: Any added monitoring equipment.

Intake Location: The sources of the flow to the system. Oil filled equipment will be NA.

# of Discharge Points: The number of individual points were the discharge occurs. Note – for some systems, like grease points, the system can have many individual discharge points.

ID NPDES Type: Categorization of the discharge as it relates to the Idaho Draft NPDES Permit. Categories include Cooling, Drainage, Maintenance, Flood / High Water, Combined. NA will be used for uncategorized discharges (i.e. Wicket gate grease).

Notes: Any pertinent information not described elsewhere that could be helpful is described here.

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NPDES PERMITS
COLUMBIA RIVER

						Lab Analysis																																					
Outfall	**Outfall Name**	**System Description**	**Project Location**	**Sampling Status**	**Tests Required**	**Tests Complete**	**Temp °C**	**pH**	**BOD mg/L**	**BOD Max Daily lbs**	**BOD Avg Daily lbs**	**TSS mg/L**	**TSS Max Daily lbs**	**TSS Avg Daily lbs**	**COD mg/L**	**COD Max Daily lbs**	**COD Avg Daily lbs**	**TOC mg/L**	**TOC Max Daily lbs**	**TOC Avg Daily lbs**	**Ammonia mg/L**	**Ammonia Max Daily lbs**	**Ammonia Avg Daily lbs**	**Oil/Grease mg/L**	**Chlorine mg/L**	**PCB µg/L**	**Budget**	**Lat**	**Long**	**Discharge Location**	**Suspected Pollutants**	**Avg. Flow gpm**	**Treatment Description**	**Treatment Code (2C-1)**	**Frequency**	**Flow Rate (Long term avg in mgd)**	**Flow Rate (Maximum Daily in mgd)**	**Duration (in days)**	**Improvements?**	**Intake Location**	**# of Discharge Points**	**ID NPDES Type**	**Notes**
001	Fish Unit Non-Contact Cooling Water Unit #2	Provides cooling for the fish unit turbine system including bearings (upper guide and lower thrust and air coolers). The FU cooling water discharges to the draft tube with one discharge point for each fish units. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**23.8**	**7.9**	**ND**	**0.00**	**0.00**	**4.30**	**41.31**	**41.31**	**ND**	**0.00**	**0.00**	**1.50**	**14.41**	**14.41**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'57"	121°56'12"	Draft Tube	Heat, Oil (if piping fails)	800	Discharge to Surface Water	4-A	Continuous	1.152	1.152	365	None	Scroll Case	1	Cooling	
002	Fish Unit Non-Contact Cooling Water Unit #1	Provides cooling for the fish unit turbine system including bearings (upper guide and lower thrust and air coolers). The FU cooling water discharges to the draft tube with one discharge point for each fish units. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**24.3**	**8.1**	**ND**	**0.00**	**0.00**	**33.00**	**317.05**	**317.05**	**ND**	**0.00**	**0.00**	**1.50**	**14.41**	**14.41**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'57"	121°56'13"	Draft Tube	Heat, Oil (if piping fails)	800	Discharge to Surface Water	4-A	Continuous	1.152	1.152	365	None	Scroll Case	1	Cooling	
003	CAC 2	HVAC Chiller	Powerhouse II North, +5 gallery	Complete	BOD TSS COD TOC Ammonia Oil/Grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**22.2**	**8.1**	**ND**	**0.00**	**0.00**	**13.00**	**202.96**	**202.96**	**ND**	**0.00**	**0.00**	**1.50**	**23.42**	**23.42**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'56	121°56'12	Tailrace, South of Unit 11	Heat	1300	Discharge to Surface Water	4-A	Continuous	1.872	1.872	365	None	Scroll Case	1	Cooling	
04a	Main Turbine Unit (MU) Non-Contact Cooling Water #18	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**22.7**	**8.1**	**ND**	**0.00**	**0.00**	**1.90**	**14.83**	**14.83**	**ND**	**0.00**	**0.00**	**1.50**	**11.71**	**11.71**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'56"	121°56'14"	Draft Tube	No Oil	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
04b	Main Turbine Unit (MU) Thrust Bearing Cooler Water #18	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**22.6**	**8.1**	**ND**	**0.00**	**0.00**	**3.30**	**27.74**	**27.74**	**ND**	**0.00**	**0.00**	**1.50**	**12.61**	**12.61**	**0.29**	**2.44**	**2.44**	**ND**			HYD	45°38'56"	121°56'14"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case	1	Cooling	
05a	Main Turbine Unit (MU) Non-Contact Cooling Water #17	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**21.8**	**8.0**	**ND**	**0.00**	**0.00**	**1.80**	**14.05**	**14.05**	**ND**	**0.00**	**0.00**	**1.50**	**11.71**	**11.71**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'55"	121°56'15"	Draft Tube	No Oil	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
05b	Main Turbine Unit (MU) Thrust Bearing Cooler Water #17	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**21.8**	**8**	**ND**	**0.00**	**0.00**	**1.50**	**12.61**	**12.61**	**ND**	**0.00**	**0.00**	**1.40**	**11.77**	**11.77**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'55"	121°56'15"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case	1	Cooling	
06a	Main Turbine Unit (MU) Non-Contact Cooling Water #16	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**16.6**	**8.1**	**ND**	**0.00**	**0.00**	**ND**	**0.00**	**0.00**	**ND**	**0.00**	**0.00**	**1.70**	**13.27**	**13.27**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'55"	121°56'15"	Draft Tube	No Oil	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
06b	Main Turbine Unit (MU) Thrust Bearing Cooling Water #16	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**15.4**	**8**	**2.3**	**19.34**	**19.34**	**ND**	**0.00**	**0.00**	**ND**	**0.00**	**0.00**	**2.30**	**19.34**	**19.34**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'55"	121°56'15"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case	1	Cooling	
07a	Main Turbine Unit (MU) Non-Contact Cooling Water #15	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**22.7**	**8.1**	**ND**	**0.00**	**0.00**	**4.00**	**31.22**	**31.22**	**ND**	**0.00**	**0.00**	**1.70**	**13.27**	**13.27**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'54"	121°56'16"	Draft Tube	No Oil	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
07b	Main Turbine Unit (MU)Thrust Bearing Cooling Water #15	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	**22.3**	**8.1**	**ND**	**0.00**	**0.00**	**1.40**	**11.77**	**11.77**	**ND**	**0.00**	**0.00**	**1.50**	**12.61**	**12.61**	**ND**	**0.00**	**0.00**	**ND**			HYD	45°38'54"	121°56'16"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case	1	Cooling	

						Lab Analysis																																			
Outfall	Outfall Name	System Description	Project Location	Sampling Status	Tests Required	Tests Complete	Temp °C	pH	BOD mg/L	BOD Max Daily lbs	BOD Avg Daily lbs	TSS mg/L	TSS Max Daily lbs	TSS Avg Daily lbs	COD mg/L	COD Max Daily lbs	COD Avg Daily lbs	TOC mg/L	TOC Max Daily lbs	TOC Avg Daily lbs	Ammonia mg/L	Ammonia Max Daily lbs	Ammonia Avg Daily lbs	Oil/Grease mg/L	Chlorine mg/L	PCB µg/L	Budget	Lat	Long	Discharge Location	Suspected Pollutants	Avg. Flow gpm	Treatment Description	Treatment Code (2C-1)	Frequency	Flow Rate (Long term avg in mgd)	Flow Rate (Maximum Daily in mgd)	Duration (in days)	Improvements?	Intake Location	# of Discharge Points	ID NPDES Type	Notes
08a	Main Turbine Unit (MU) Non-Contact Cooling Water #14	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	23.1	8.1	2	15.61	15.61	1.80	14.05	14.05	ND	0.00	0.00	1.80	14.05	14.05	ND	0.00	0.00	ND			HYD	45°38'53"	121°56'17"	Draft Tube	Heat, Oil (if piping fails)	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
08b	Main Turbine Unit (MU) Thrust Bearing Cooling Water #14	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	23.1	8.1	3.7	31.10	31.10	1.40	11.77	11.77	ND	0.00	0.00	2.90	24.38	24.38	ND	0.00	0.00	ND			HYD	45°38'53"	121°56'17"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case	1	Cooling	
09a	Main Turbine Unit (MU) Non-Contact Cooling Water #13	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	22.9	8.1	ND	0.00	0.00	2.00	15.61	15.61	ND	0.00	0.00	1.70	13.27	13.27	ND	0.00	0.00	ND			HYD	45°38'53"	121°56'18"	Draft Tube	No Oil	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
09b	Main Turbine Unit (MU)Thrust Bearing Cooling Water #13	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	23.0	8.1	2.7	22.70	22.70	3.20	26.90	26.90	ND	0.00	0.00	2.30	19.34	19.34	ND	0.00	0.00	ND			HYD	45°38'53"	121°56'18"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case		Cooling	
10a	Main Turbine Unit (MU) Non-Contact Cooling Water #12	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	19.3	8.1	ND	0.00	0.00	1.60	12.49	12.49	ND	0.00	0.00	1.50	11.71	11.71	ND	0.00	0.00	ND			HYD	45°38'52"	121°56'19"	Draft Tube	No Oil	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
10b	Main Turbine Unit (MU) Thrust Bearing Cooling Water #12	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	22.8	8.1	ND	0.00	0.00	13.00	109.29	109.29	ND	0.00	0.00	1.60	13.45	13.45	ND	0.00	0.00	ND			HYD	45°38'52"	121°56'19"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case		Cooling	
11a	Main Turbine Unit (MU) Non-Contact Cooling Water #11	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Need All Samples	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow					0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00				HYD	45°38'51"	121°56'20"	Draft Tube	No Oil	650	Discharge to Surface Water	4-A	Continuous	0.936	0.936	365	None	Scroll Case	1	Cooling	
11b	Main Turbine Unit (MU) Thrust Bearing Cooling Water #11	Provides cooling for MU turbine system including bearings (upper guide and lower thrust and air coolers). The MU cooling water discharges to the draft tube. Cooling in bearings occurs from water flowing through pipes submerged in an oil bath.	Powerhouse II	Need All Samples	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow					0.00	0.00		0.00	0.00	ND	0.00	0.00		0.00	0.00		0.00	0.00				HYD	45°38'51"	121°56'20"	Draft Tube	Heat, Oil (if piping fails)	700	Discharge to Surface Water	4-A	Continuous	1.008	1.008	365	None	Scroll Case		Cooling	
012	Oil Water Separator	The oil water separator collects drainage from the 3 transformer secondary containments and the main unit and fish unit top plate pumps (turbine pits). A TD-4100 Hydrocarbon detector monitors before water is discharged to the river.	Powerhouse Tailrace Deck (Elevation -5)	Complete	BOD TSS COD TOC Ammonia Oil/grease PCB Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease PCB Temp pH	17.8	7.7	ND	0.00	0.00	1.00	28.82	28.82	ND	0.00	0.00	ND	0.00	0.00	ND	0.00	0.00	ND		ND	HYD	45°38'55	121°56'14	Tailrace	Oil / Water	2400	Flotation (oil), Discharge to Surface Water	1-H, 4-A	Continuous	3.456	3.456	365	Hydrocarbon Detector	Transformer Secondary Containment, Turbine Pits	1	Drainage	Hydrocarbon detector located at downstream gallery +5. Flow updated from 600 gpm to 2400 gpm).
013	CAC 1	HVAC Chiller	Powerhouse 2 South, +5 gallery	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	20.6	8.1	ND	0.00	0.00	10.00	156.12	156.12	ND	0.00	0.00	1.70	26.54	26.54	ND	0.00	0.00	ND			HYD	45°38'51	121°56'20	Tailrace, or draft tube	Heat	1300	Discharge to Surface Water	4-A	Continuous	1.872	1.872	365	None	Scroll Case	1	Cooling	
014	Unwatering Sump	The unwatering sump's primary purpose is to remove water from the draft tube. It is a larger sump than the drainage sump with larger pump capacity. The unwatering sump is monitored by a TD4100 hydrocarbon detector. The drainage sump overflows to the unwatering sump.	Powerhouse II (Elevation +3)	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	16.4	7.6	ND	0.00	0.00	5.90	34.35	32.00	ND	0.00	0.00	ND	0.00	0.00	ND	0.00	0.00	ND			HYD	45°38'50	121°56'19	Corner Collector (tailrace below PHII)	Heat, Oil	484.77	Discharge to Surface Water	4-A	Intermittent	0.6502559	0.6980688	340	Hydrocarbon Detector	Expansion Joints, Draft Tube Drains, Drainage sump overflow	1	Combined: Primarily Maintenance but if drainage sump overflows it drains to Unwatering (Drainage and Cooling)	Unwatering sump could discharge oil if a runner was actively leaking during unwatering. Water surface is inspected for oil In the draft tube before being drained.

						Lab Analysis																																			
Outfall	**Outfall Name**	**System Description**	**Project Location**	**Sampling Status**	**Tests Required**	**Tests Complete**	**Temp °C**	**pH**	**BOD mg/L**	**BOD Max Daily lbs**	**BOD Avg Daily lbs**	**TSS mg/L**	**TSS Max Daily lbs**	**TSS Avg Daily lbs**	**COD mg/L**	**COD Max Daily lbs**	**COD Avg Daily lbs**	**TOC mg/L**	**TOC Max Daily lbs**	**TOC Avg Daily lbs**	**Ammonia mg/L**	**Ammonia Max Daily lbs**	**Ammonia Avg Daily lbs**	**Oil/Grease mg/L**	**Chlorine mg/L**	**PCB µg/L**	**Budget**	**Lat**	**Long**	**Discharge Location**	**Suspected Pollutants**	**Avg. Flow gpm**	**Treatment Description**	**Treatment Code (2C-1)**	**Frequency**	**Flow Rate (Long term avg in mgd)**	**Flow Rate (Maximum Daily in mgd)**	**Duration (in days)**	**Improvements?**	**Intake Location**	**# of Discharge Points**	**ID NPDES Type**	**Notes**
015	Drainage Sump	The drainage sump's purpose is to collect and discharge water that makes it into the powerhouse. It collects fluid from the powerhouse floor drains and air compressors cooling water in the powerhouse. Any oil that leaked into the floor drains from any spill within the powerhouse would go to the drainage sump.	Powerhouse II (Elevation +3)	Complete	BOD TSS COD TOC Ammonia Oil/grease Temp pH Flow	BOD TSS COD TOC Ammonia Oil/Grease Temp pH	16.2	7.5	ND	0.00	0.00	5.60	10.51	9.79	ND	0.00	0.00	1.20	2.25	2.10	ND	0.00	0.00	ND			HYD	45°38'51	121°56'20	Tailrace (below water level)	Heat, Oil, pH	156.25	Discharge to Surface Water	4-A	Continuous	0.209589	0.225	340	Hydrocarbon Detector, Skimmer	Expansion Joints, Floor Drains, Governor Air Compressor Drain, Draft Tube Valve Pit Drain	1	Combined: Drainage and Cooling	
016	OWS (New) To be constructed in 2020.	The new OWS will be able to run parallel or in series with the existing OWS.	Powerhouse II																									45°38'52	121°56'22	Tailrace via Old Ice Trash Sluiceway	Heat, Oil,pH	2400	Flotation (oil), Discharge to Surface Water	1-H, 4-A	Continuous	3.456	3.456	365	Hydrocarbon Detector, Skimmer	Turbine Pits	1	Drainage	2 units at 1200 each
NA	Kaplan Runner	The Kaplan runner is the part of the turbine that extends into the water in the draft tube. The runner contains turbine oil and can release oil similar to a controlled pitch propeller in vessels.	Powerhouse	None	None																						HYD	45°38'	121°56'	Either the runner itself or the draft tube (depending on whether the draft tube is watered)	Oil	NA			NA				None		NA	10 (8 MU, 2 FU)
NA	Wicket Gate Grease	Grease is used to lubricate bushings on wicket gates that control the flow of water into the scroll case. During the lubrication process grease is pushed through equipment and can be released directly to the river. The system automatically greases the bushings when the unit is operating per manufacturer's specifications.	Powerhouse	None	None																						HYD	45°38'	121°56'	Wicket gate Seal In the draft tube.	Husky Non-Petroleum Grease	Estimated 1/4 cup a Week			Daily when unit is in operation.				Internal to Wicket Gate		NA	
NA	Lubricated wire rope / Gate Trucks	Lubricated wire rope is used throughout the project over water and direct contact with water and greased based upon the Project's preventative maintenance schedule.	Powerhouse / Spillway / Navigation Lock	None	None																						NA	45°38'	121°56'	Varies	Grease	NA			Continuous				None		NA	
NA	In-Water Equipment	In-water equipment, such as bearings, blocks, trucks, and guides, in or above the water is greased based upon the Project's preventative maintenance schedule.	Powerhouse / Spillway / Navigation Lock																									45°38'	121°56'	Varies	Grease	NA			Continuous				None		NA	
NA	Automatic Cooling Water Strainers	Cooling water strainers consist of mesh that is designed to remove solids that could damage the system. A differential switch empties the collected solids from the strainer into the draft tube.	Powerhouse																											Draft Tube	No Oil BOD, TSS?		Discharge to Surface Water	4-A	Intermittent					Scroll Case	10	NA	8 Main Unit Strainers 2 Fish Unit Strainers
							24.3	8.1		88.75			1090.40			0.00			283.36			2.44	0	0	0																